

Science - 5th Grade (TEKS- Aligned Course Objectives)

<u>Scientific Processes</u>			
OBJ	5	1	The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices
SE	5	1A	Demonstrate safe practices during field and laboratory investigations
SE	5	1B	Make wise choices in the use and conservation of resources and the disposal or recycling of materials
OBJ	5	2	The student uses scientific methods during field and laboratory investigations
SE	5	2A	Plan and implement descriptive and simple experimental investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology
SE	5	2B	Collect information by observing and measuring
SE	5	2C	Analyze and interpret information to construct reasonable explanations from direct and indirect evidence
SE	5	2D	Communicate valid conclusions
SE	5	2E	Construct simple graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate information
OBJ	5	3	The student uses critical thinking and scientific problem solving to make informed decisions
SE	5	3A	Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information
SE	5	3B	Draw inferences based on information related to promotional materials for products and services
SE	5	3C	Represent the natural world using models and identify their limitations
SE	5	3D	Evaluate the impact of research on scientific thought, society, and the environment
SE	5	3E	Connect Grade 5 science concepts with the history of science and contributions of scientists
OBJ	5	4	The student knows how to use a variety of tools and methods to conduct science inquiry
SE	5	4A	Collect and analyze information using tools including calculators, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, compasses, balances, hot plates, meter sticks, timing devices, magnets, collecting nets, and safety goggles
SE	5	4B	Demonstrate that repeated investigations may increase the reliability of results
<u>Science Concepts</u>			
OBJ	5	5	The student knows that a system is a collection of cycles, structures, and processes that interact
SE	5	5A	Describe some cycles, structures, and processes that are found in a simple system
SE	5	5B	Describe some interactions that occur in a simple system
OBJ	5	6	The student knows that some change occurs in cycles
SE	5	6A	Identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles
SE	5	6B	Identify the significance of the water, carbon, and nitrogen cycles
SE	5	6C	Describe and compare life cycles of plants and animals
OBJ	5	7	The student knows that matter has physical properties
SE	5	7A	Classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound

SE	5	7B	Demonstrate that some mixtures maintain the physical properties of their ingredients
SE	5	7C	Identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water
SE	5	7D	Observe and measure characteristic properties of substances that remain constant such as boiling points and melting points
OBJ	5	8	The student knows that energy occurs in many forms
SE	5	8A	Differentiate among forms of energy including light, heat, electrical, and solar energy
SE	5	8B	Identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses
SE	5	8C	Demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects
SE	5	8D	Verify that vibrating an object can produce sound
OBJ	5	9	The student knows that adaptations may increase the survival of members of a species
SE	5	9A	Compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem
SE	5	9B	Analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem
SE	5	9C	Predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem
OBJ	5	10	The student knows that likenesses between offspring and parents can be inherited or learned
SE	5	10A	Identify traits that are inherited from parent to offspring in plants and animals
SE	5	10B	Give examples of learned characteristics that result from the influence of the environment
OBJ	5	11	The student knows that certain past events affect present and future events
SE	5	11A	Identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow
SE	5	11B	Draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences
SE	5	11C	Identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources
OBJ	5	12	The student knows that the natural world includes earth materials and objects in the sky
SE	5	12A	Interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering
SE	5	12B	Describe processes responsible for the formation of coal, oil, gas, and minerals
SE	5	12C	Identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon
SE	5	12D	Identify gravity as the force that keeps planets in orbit around the Sun and the moon in orbit around the Earth